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Dissertation on

Menstruation

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by

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Menstruation is a process so intimately connected with the health and comfort of the fairer sex, that it would be injustice to them, were it not to receive its proportionate share of Medical investigation. Upon it depends also the propagation of the human species; for where it is wanting or much deranged, sterility is the consequence. Being so evidently important, it attracted the attention of the most ancient and uncultivated nations, long before Medicine was taught or practised as a science. Their superstition was so highly excited by its singularity, that the fluid was said to be one of the most noxious substances in nature. It was even said to destroy the Caterpillar, when sprinkled around the hedges upon which it fed. Many such ascribed properties may be found detailed in the works of older writers; but it is not necessary to introduce them here. We shall therefore proceed to the investigation of

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the subject under its present state of advancement. That sanguineous fluid thrown off from the uterus periodically,, is called Menses, from its appearing regularly at an interval of from 26 to 30 days, or a lunar month. The age at which this discharge appears, varies very much in different countries. In some it commences as early as the ninth or tenth year; in others not sooner than the nineteenth or twentieth. This difference is owing to the difference of climate; for we find in all hot climates that menstruation commences much sooner, flows more copiously, and ceases at a much earlier period than in cold climates. Heat has a very powerful effect in relaxing the solids of the human body, as is evinced by the copious perspiration taking place in all cases, where the body in health, is heated above its natural temperature. Not in this secretion alone, is the effects of heat apparent, but in many others. In temperate climates Menstruation usually commences about the age of fourteen or fifteen: and about

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this time there are evident signs of an approaching revolution in the female system. Every part or organ connected with the process of generation, becomes more perfectly developed. The mind sympathising with this corporeal revolution becomes stronger, and disposed to yield to the new passions brought about by the revolution. The system about this time is very irritable and consequently there is great susceptibility to disease. On the contrary, the predisposition to some of the hereditary diseases, is in part or totally done away; owing we suppose to the two actions being incompatible.

The process by which the menstrual fluid is elaborated, has occasioned much diversity of opinion among physiological writers. It has been attributed to a fermentation in the blood, to the influence of the moon, to plethora and to a secretory process of the Uterus. As we presume there is no one who would, at present contend for the production of the menses by fermentation

or lunar influence, we deem it useless to make any remarks on them.

The opinion that a general or local plethora was the sole cause of the catamenia, was entertained for a considerable length of time; and is even now advocated by some. In corroboration of the hypothesis it is said, "that during menstruation, the symptoms are evidently those of plethora; such as anxiety, oppression and a sense of weight about the chest, flushings of the face, headache &c. Again, it is said, that the female of the human species, is the only animal subject to this discharge; this is attributed to the erect position of the female; thus favoring the determination of the blood downwards. This, however, is a most unsatisfactory way of getting over a difficulty.

Now we would ask; if plethora produced the above symptoms, why will not direct depletion, by opening a vein, remove them? Or why do not those vicarious discharges which frequently happen, put a stop to them? But we find that these only palliate the symp-

-toms; and that the only way of relieving them, is by establishing the healthy uterine action.

We admit that no other animals have regular menstruation. They are subject to seasons; and during those seasons, we observe in some a discharge to take place, though not precisely similar, yet resembling in some of its properties, the catamenial fluid. The discharge also, frequently becomes sanguineous when the female is kept apart from the male; as is exemplified in the bitch when secluded from the dog. The female of the human species is not subject to those seasons; yet she may be said to be under the influence of a perpetual season: for there is no one time more suitable for conception or parturition, than another. From the above reasons we conclude, that neither general nor local plethora is the cause of the menstrual flux; but that it depends on a peculiar action of the uterus itself; which action we shall now take into consideration.

The remote situation of the uterus, as well as the instinctive modesty of the female sex, excludes the possibility of examining its operations by the eye. The only means we have of ascertaining the nature of its operations, is by examinations of the matter evacuated and the structure of the organ itself, after death. Should its conformation correspond with that of any particular set of organs, and its discharge be subject to the same laws, then we must refer it to the same class.

Under such impressions we are induced to place the Uterus in the class of secreting organs; believing the Menstrual discharge to be a perfect secretion. In support of this opinion, we hope not to be altogether unable to adduce some arguments, if not conclusive, at least consistent with reason.

In the first place, the parietes of the uterus when in an unimpregnated state, (the only state in which menstruation is performed) are very solid and compact, imparting to the touch very much the feel of that

hardness and firmness characteristic of the majority of the glands; and it is also subject to the same diseases.
2ndly The uterus is exceedingly vascular, and the distribution of its blood-vessels is such, that the blood must be considerably retarded in its passage: owing in the first place, to the greater capacity of the arteries to that of the veins; secondly, to the tortuous manner in which they are distributed over the uterus. The coats of the arteries are also thiner than those of the veins.
3rdly The villous structure of the uterus is similar to that of other glands.
As there are objections brought forth by the advocates of the other doctrine, we deem it right to mention them that we may endeavour to obviate them.
1st We are told that the uterus is not sufficiently glandular for the purposes of secretion. If those who urge this objection would, for a moment, reflect on the various secreting surfaces of the body, they would we think, without any farther evidence, abandon it

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as altogether preposterous. We admit that some of the glands when superficially viewed, appear to be exceedingly complicated; but when anatomically examined, they are found to consist of nothing more than a congeries of vessels. As far as our own knowledge extends we are not acquainted with any surface in the human frame, which is not competent to the office of Secretion; but we will only advert to the skin, pleura and stomach. These are destitute of some of the most characteristic properties of glands, strictly so called; still we find them throwing out fluids which are undeniably secretions; particularly the last mentioned. Seeing then that these surfaces, which are of so simple a structure, are possessed of the power of secretion, how can we deny this power to the Uterus, which is confessedly much more glandular.

2ndly By insisting upon the glandular structure of the Uterus, from its being liable to the diseases affecting other glands, we are accused of denying to

different structures a susceptibility to the same disease. This we disavow. In what better way are we to judge of the analogy between two organs, than by their many similitudes. Cancer is admitted to be a disease of the glandular system, because it is for the most part, if not altogether, confined to that system: we see it also affecting the Uterus; and moreover we believe the Uterus to be subject to the greater part of the glandular diseases, and to but few, if any others.

3rdly. It is stated that the convolutions of the vessels are intended for no other purpose, than the allowing of the growth of the Uterus during pregnancy, without endangering a rupture of their coats. We do not think this indispensably necessary for this purpose, in as much as we believe that whenever any organ is enlarged, the vessels whether straight or crooked are increased both in length and caliber so as to accomodate themselves to its size. In consequence of the operation for popliteal aneurism, the circulation is nearly cut of from the leg; but

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by degrees the anastomosing arteries become enlarged, so as to transmit a competency of blood for its support. We see this also exemplified in the growth of tumours, in which there are no tortuous vessels. If it be necessary that organs subject to distension, should have this arrangement of vessels, why do not the vessels of the urinary bladder observe this serpentine course? Is not the bladder frequently enlarged to an enormous size? and does not this enlargement take place much more suddenly than it does in the Uterus? If so, we must ascribe the elongation of its vessels to some other cause, not to their convolutions. We come now to treat of the matter of menstruation; which, as affording strong evidence in favor of the doctrine of secretion, demands particular attention. The menstrual fluid being different from all the other animal fluids, induces us to consider it, as perfectly a fluid sui generis, as any with which we are acquainted. In order to proceed with some regularity, we will

commence with the term secretion.

1st. Most vocabularies define secretion to be an act of the animal economy in separating from the blood, the various fluids separated. That this term is applicable to the menstrual fluid, will appear from the following facts.

2nd. This fluid observes the same laws that the secretions do: for we find it equally influenced by the same causes. Cold has a tendency to produce a suppression of the secretions, as of the urine, perspiration &c. It also produces a suppression of the catamenia. On the contrary, heat relaxes the secretory organs, causing them to throw out a larger quantity of fluid. This also holds good with respect to the menstrual discharge; for we find, as before remarked, that in warm climates menstruation is much more copious. Indeed it is said, that in some of the northern countries, women only menstruate during the summer months.

3rd. Menstruation, like other secretions, is subject to vitiation

and derangement; and we find the same consequences ensuing from suppression of it, that take place in other parts in consequence of suppressed secretions.

4th. In the secretory apparatus subservient to the propagation of the species, and which is not developed until puberty, we observe the establishing of this function at first very imperfect, and the secretions also deficient both in quantity and quality, until gradually, they become more perfect; as in the testes and mamma. This is also applicable to the Uterus, as its discharge is at first a glairy and almost colourless fluid, but becoming after a series of efforts, more perfect.

5th. This fluid does not, like blood, coagulate; and upon analysis presents different results.

The experiment of Dr. Wm. Hunter goes also to corroborate this doctrine.

With respect to the periodical occurence of this discharge we confess our inability to account for it, further than its being necessary to prepare and keep the Uterus in

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a fit state for impregnation. This we believe, not to be the only case in which necessity calls forth the developement of a secretory organ. The mamma during the virgin life lie in a dormant state; but so soon as parturition takes place, there is necessity for a peculiar kind of food for the newly born babe; which necessity is supplied by the mamma taking on a secretory action, subservient to the elaboration of milk.

Having enumerated our principal reasons in support of the menstrual discharge being a secretion, we will proceed to make some few remarks on the objections advanced by those, who assert it to be a hemorrhage.

Among the arguments opposed to the doctrine of secretion, is the cessation of the menses. This however we consider of little weight; since other secretory functions are known to cease after a certain time of life. Do the testes continue their office as secretory organs after the age of sixty? If so, why does the disposition to venery cease? and why do we not more frequently meet with

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instances of men's marrying after that age and adding to the number of our population.

About the period at which the menses cease, the decline of life comes on, and nature in her wise economy, dispenses with every function which is not essential to its individual welfare; and menstruation being one which conduces only to the propagation of the human species, can, with as little inconvenience as any other, be dispensed with.

This discharge is affirmed by some to be pure blood. We beg leave for a moment to examine the arguments adduced in favor of this opinion.

We are told that the menstrual fluid, when healthy, does coagulate, and when it does not, it is evidence either of disease or over excitement of the vessels which produce it. If this be true, perpetual disease must be preying upon the female system: for we find in nine out of ten cases the discharge is fluid. If the fluidity of this discharge be so much more frequent

and at the same time there be unequivocal marks of health in the general system, we are constrained to pronounce it, the effect of healthy Menstruation.
Again; when this fluid is prevented from escaping by an imperforate hymen, what ever be its quantity, it is found perfectly fluid, and remains so after evacuation. If, as is said, its appearance be altered by mixing with the humours of the surface over which it passes; we would ask, why is it not the case with hemorrhages from other parts of similar structure and equal extent? In hæmoptysis for instance, the mucous surface over which the blood passes is much more extensive than that of the vagina; yet we see it differing in no essential point from pure blood.
Another of the supposed barriers to the doctrine of secretion, is founded upon the assumption that menstruation continues during pregnancy. It is true there is occasionally a discharge from the parts of generation during pregnancy, but what proof is there that this dis-

charge is from the Uterus? we answer none; it is only supposition, and we upon the same principle suppose it to be from the vagina. Indeed a consideration of the circumstances of the pregnant Uterus, would, we think, do away this opinion: for the os Uteri is completely closed by impacted mucus; the removal of which would produce all the consequences of Uterine hemorrhage.

We have lately read, in the New York Medical and physical journal, a piece on conception by Dr Stearns; in which, speaking of superfetation, he says that the lining membrane of the Uterus is frequently so reflected in the middle, as to form a complete partition, thus making, as it were, two Uteri. Now if this be the fact, and his theory be correct, it is necessary for menstruation to continue from the unimpregnated side; otherwise superfetation could never take place as he supposes. The last objection we shall mention, is that of Dr Manley, contained in the work just mentioned. In attempting to put down the doctrine of secretion,

and establish that of hemorrhage, he calls our attention to the membrane frequently formed in dysmenorrhœa. He says, "if it be the coagulating lymph of the blood, its formation readily accounts for the fluid appearance of the discharge; but if it be a secretion, it presents the singular anomaly of two secretions essentially different, going on at the same time and in the same organ: for whenever this membrane is evacuated, it is accompanied by a fluid discharge which will not coagulate." We acknowledge the inconsistency of two different secretions going on at the same time and in the same organ: but again it must be admitted, that when diseased, an organ frequently produces a substance totally different from that, it produces in health. This we see exemplified in the black vomit, and those dark, fetid discharges frequently occuring in fevers. We believe this membrane to be formed by the same vessels that secrete the menses; but not at the same time. As to the fluid discharged with the mem-

brane, we believe it to be the true material of menstruation: for this membrane is attached to the whole inner surface of the Uterus, and so soon as that action, by which it is formed, ceases, healthy menstruation commences. This healthy fluid has first to detach the membrane from the Uterus (which it does at different points) before it can find its way out; consequently there must be an accumulation of it. When this accumulation is sufficient to detach the whole of it, the membrane is discharged with the menstrual fluid following.

For Dr Dewees